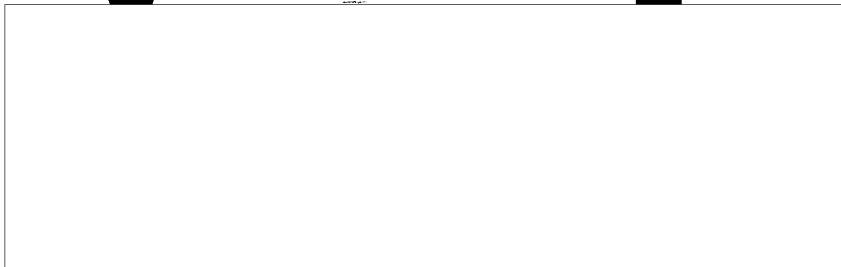


~~CONFIDENTIAL~~



25X1



25X1

(IN TRIPLICATE)

10 January 1961



DOC	05	REV DATE	1 MAY 1960	BY	018373
ORIG COMP	33	ORI	56	TYPE	03
ORIG CLASS	S	PAGES	7	REV CLASS	C
JUST	22	NEXT REV	2010	AUTH	NR 70-2

25X1

25X1

Attention:



Subject: Project Reports,
Submission of

Enclosure: (A) Progress Reports for the
month of December, in
quadruplicate

Gentlemen:

Pursuant to the terms and provisions of the applicable task orders and contracts, the contractor submits Enclosure (A), described above, detailing the progress achieved during the month of December 1960.

In the event further information is desired concerning the enclosed reports, do not hesitate to contact the writer.

Very truly yours,

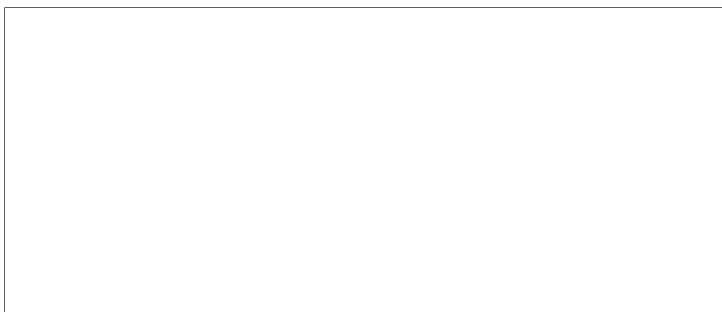


Contract Administrator

25X1

NKG:dw

cc:



25X1

~~SECRET~~

THIS DOCUMENT CONTAINS INFORMATION RELATING TO THE NATIONAL DEFENSE. IT IS UNLAWFUL TO DISCLOSE THIS INFORMATION TO ANY PERSON OR ORGANIZATION WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE SECRETARY OF DEFENSE. THE PENALTY FOR VIOLATION OF THIS PROHIBITION IS FINE OR IMPRISONMENT OR BOTH.

~~CONFIDENTIAL~~

PROGRESS REPORT
FOR
MONTH OF DECEMBER 1960

CONFIDENTIAL

BROADBAND ANTENNA, FILTER AND DETECTOR SYSTEMS

Purpose: To develop a system of antennas, filters and detectors for the 50 mc to 40,000 mc frequency range.

Personnel: Electrical Engineers:
Mechanical Engineer:

25X1

Status: A folded model of the 500 mc to 750 mc bandpass filter has been constructed and tested. The results were not entirely satisfactory since there were several frequencies in the passband at which the insertion loss was as high as 4 or 5 db. These points of high attenuation may be decreased by more careful control of the folding process. A 750 mc to 1000 mc, a 1000 mc to 2000 mc, a 2000 mc to 4000 mc, and a 4000 mc to 8000 mc, bandpass filters have been constructed and tested. There are frequencies in the passbands of all filters where the insertion loss is as high as 3 to 4 db. The cutoff characteristics of these filters are satisfactory. The passband characteristics may be improved by more careful control of the manufacturing tolerances. Final models of the 8,000 mc to 10,000 mc bandpass filters have been constructed and tested satisfactorily. The shunt stub thickness as reported in the previous report was decreased, thus enabling satisfactory results. Considerable difficulty has been encountered with the 10,000 mc to 40,000 mc horn antenna and waveguide assembly

CONFIDENTIAL

- 2 -

and was the subject discussed in a request for delivery date extension. Since this phase of the contract was discussed at length in that communication, reference to it is made for the progress to date.

Future Plans: Work in all phases will continue.

**PROGRESS REPORT
FOR
MONTH OF DECEMBER 1960**

1-10 KMC PRIMARY FEED ANTENNA

Purpose: To develop, design, construct and test five 1-10 KMC primary feed antennas.

Personnel: Electrical Engineer:

Mechanical Engineer:



25X1

Status: All designs have been firmed and construction has begun. Tests indicate that a protective covering of polystyrene for the antenna will be satisfactory both mechanically and electrically.

Future Plans: During the next period, construction and testing of the antennas will be completed. Delivery will follow.

**PROGRESS REPORT
FOR
MONTH OF DECEMBER 1960**

TRANSPORTABLE INFLATABLE ANTENNAS

Purpose: To construct and fabricate three transportable inflatable antennas with indoor mounts only.

Personnel: Electrical Engineer:
Mechanical Engineer:

25X1

Status: All parts have been received; antennas have been tested and shipped.

Future Plans: Project has been closed.

PROGRESS REPORT
FOR
MONTH OF DECEMBER 1960

ELECTROMAGNETIC HORN ANTENNA

Purpose: To construct a system of antennas, filters and detectors for the 10,000 mc to 40,000 mc frequency range and a system of antennas and filters for the 50 mc to 10,000 mc frequency range.

Personnel: Electrical Engineer:

25X1

Status: A folded model of the 500 mc to 750 mc bandpass filter has been constructed and tested. The results were not entirely satisfactory since there were several frequencies in the passband at which the insertion loss was as high as 4 or 5 db. These points of high attenuation may be decreased by more careful control of the folding process. A 750 mc to 1000 mc, a 1000 mc to 2000 mc, a 2000 mc to 4000 mc, and a 4000 mc to 8000 mc, bandpass filters have been constructed and tested. There are frequencies in the passbands of all filters where the insertion loss is as high as 3 to 4 db. The cutoff characteristics of these filters are satisfactory. The passband characteristics may be improved by more careful control of the manufacturing tolerances. Final models of the 8,000 mc to 10,000 mc bandpass filters have been constructed and tested satisfactorily. The shunt stub thickness as reported in the previous report was decreased, thus enabling satisfactory results. Considerable difficulty has been encountered with the 10,000 mc to 40,000 mc horn antenna and waveguide assembly

- 2 -

and was the subject discussed in a request for delivery date extension. Since this phase of the contract was discussed at length in that communication, reference to it is made for the progress to date.

Future Plans: Work in all phases will continue.